ADL's Mobile Learning Resources & The MoTIF Project

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The Tolliver Group, Inc. SETA Support for ADL

"Provide access to the highest quality education and training, tailored to individual needs, delivered cost effectively, anywhere and anytime."

- ADL Vision

What a difference 8 years makes. St. Peter's Square

Photo Source: http://instagram.com/p/W2FCksR9-e/
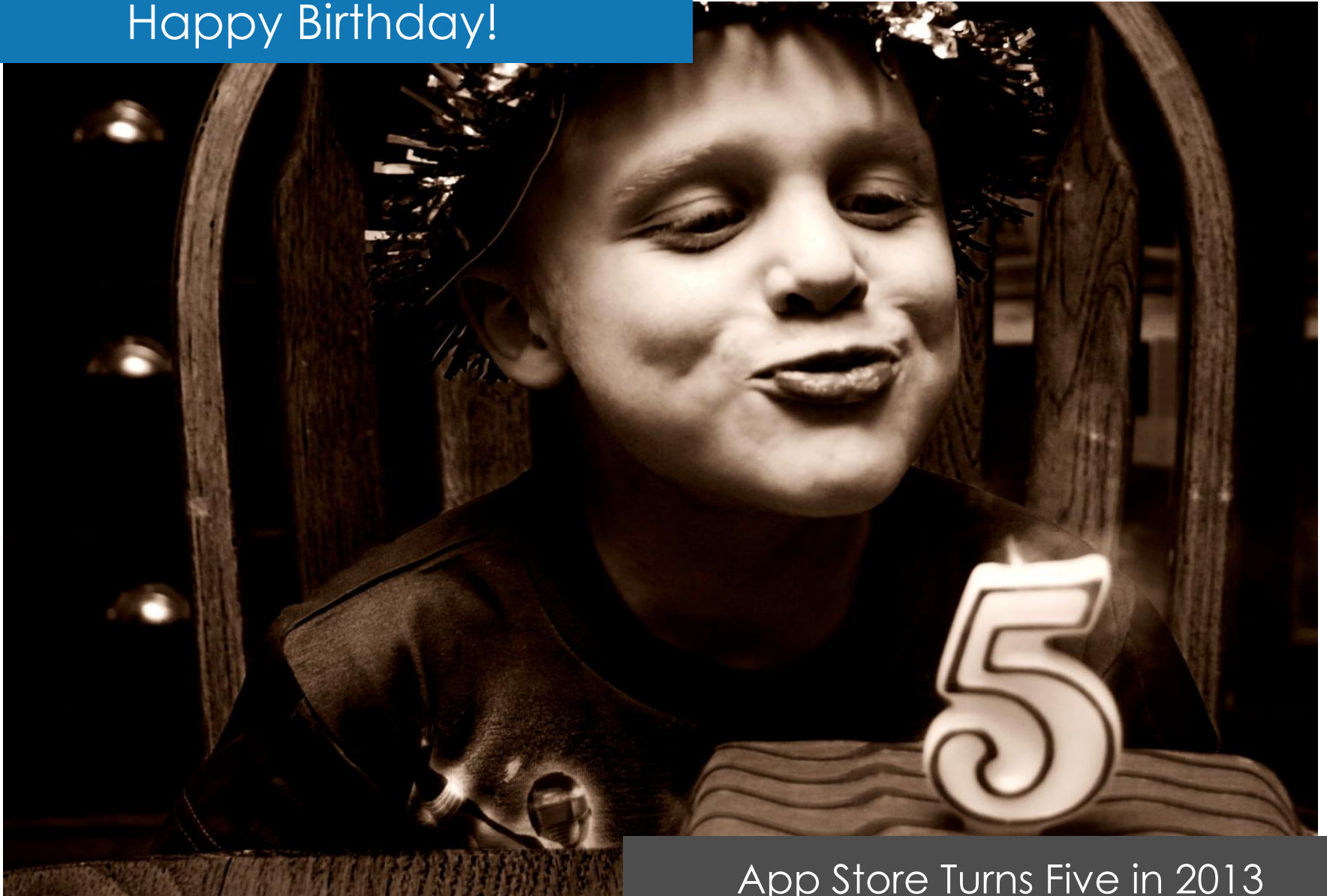
App Store

Surprise Story of 2008

Happy Birthday!

App Store Turns Five in 2013

ADL Mobile Learning Guide (App)

USA.gov
Government Made Easy

🔍 [   ] SEARCH APPS

Mobile Apps > ADL mLearning Guide

ADL mLearning Guide
Office of the Under Secretary of Defense for Personnel and Readiness (OUSD P&R)

iPhone Download Now   **Android** Download Now   **Mobile Web** mlearn.adlnet....

The purpose of the ADL Mobile Learning (mLearning) Guide is to provide a universal resource on all topics pertinent to mobile learning. This resource is intended to provide you with an introduction and will explore the following topics about mobile learning: the basics, planning, learning content, development options, and design considerations. This app was developed by the Advanced Distributed Learning (ADL) Initiative's Mobile Learning Team. ADL is sponsored by the Office of the Under Secretary of Defense for Personnel and Readiness (OUSD P&R). This is an official app of the U.S. Government ADL Initiative.

Tags: ADL, Advanced Distributed Learning, mLearning, mobile devices, mobile learning

mLearning Guide
- Introduction
- Basics
- Planning
- Learning Content
- Development Optio...
- Design Considerati...

About   Glossary   Resources

http://apps.usa.gov/adl-mlearning-guide/

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Resources

ADL Mobile Learning Newsletter

Welcome to the Advanced Distributed Learning (ADL) weekly report on news and find increased requests, this newsletter is now open to all. Please subscribe using the link

Mobile Learning...

- ⭐ How To Develop Your Own Mobile Learning Tools - http://edudemic.com/20
- ⭐ Overcoming the Course and Control mindset hurdles - http://www.c4lpt.co.
- 5 Smartphone (Mobile Learning) Concerns - http://eduwithtechn.wordpress.co
- Always a need for "Back to Basics" - http://www.mobilelearningedge.com/201
- Before You Go Mobile: 28 Mobile Learning Questions to Ask [Vendor] - http://
- Great Video about using Mobile Devices in the Classroom by @mseideman - h classroom-by-mseideman/
- How Technology is Changing Students Study Habits - http://www.educatorsted
- Learning in the New Era - http://justhrasia.com/learning-in-the-new-era
- M-learning: What's the big deal? - http://clive-shepherd.blogspot.com/2012/0!
- Mobile Changes Everything? - http://blog.learnlets.com/?p=2698
- Mobile learning offers growing opportunities - http://www.hrmasia.com/news/l
- Mobile Learning Recap: Sharing Innovations [K-12 video] - http://www.blogta innovations
- Mobile Users: Get Ready, Get Set – Learn! [Vendor] - http://blogs.cisco.com/
- New App Links Students and Teachers on iPads - http://thejournal.com/article
- This Week in mLearning Podcast – A Review of Articulate Storyline [Episode 5] articulate-storyline-episode-5/

News Stories of Interest...

- ⭐ How Mobile is Rapidly Evolving the World - http://www.forbes.com/sites/m
- 3,997 Models: Android Fragmentation As Seen By The Developers Of OpenSig fragmentation-as-seen-by-the-developers-of-opensignalmaps/
- A Smart Phone that Can Sniff out Sickness? - http://www.technologyreview.co
- Betting Everything on Mobile - http://www.technologyreview.com/business/40:
- Ericsson could turn you into a human USB connection next year - http://review into-a-human-usb-connection-next-year/
- Google Patent Suggests New Direction For Project Glass Augmented Reality Int suggests-new-direction-for-project-glass-augmented-reality-interface/
- Half of U.S. cell phones are now smartphones - http://money.cnn.com/2012/0
- Hey, How About a Smartphone App to Track Vet Benefits? - http://www.nexto track-vet-benefits/55750/
- IDC: developers embracing HTML5 - http://www.mobilebusinessbriefing.com/a
- Mayo Clinic launches first free app specifically directed at patients - http://me directed-at-patients/
- Mobile Web Usage Growing Faster Than Ever Before, says Latitude - http://mo ever-says-latitude
- New research shows 6 countries are the clear leaders in smartphone adoption. Do you know which ones? - http://googlemobileads.blogspot.com/2012/05/new-research-shows-6-countries-are.html
- No Terminator-style overlays in first batch of Google Glasses - http://news.cnet.com/8301-1035_3-57434191-94/no-terminator-style batch-of-google-glasses/
- Report: Google planning revamped Nexus strategy - http://www.mobilebusinessbriefing.com/articles/report-google-planning-revampe strategy/23877
- State of the Appnation – A Year of Change and Growth in U.S. Sm
- Tablet, Smartphone Use Increasing Worker Productivity: CDW - ht Worker-Productivity-CDW-779688/
- Telework will play a big role in government digital strategy, feder government-digital-strategy-federal-cio-says/55697/
- The Mobile Trend: 10 Things to Know - http://www.businessinsider.com/the-mobile-trend-10-things-to-know-2012-5
- The tablet revolution is coming: Working anywhere without compromise - http://www.zdnet.com/blog/mobile-news/the-tablet-revolu working-anywhere-without-compromise/7878
- The Ultimate Mobile Web Infographic - http://www.socialmedia.biz/2012/05/17/the-ultimate-mobile-web-infographic/

ADL Newsletter for Mobile Learning
Newsletter Archives

Advanced Distributed Learning

Newsletter Index

July 2012:

- #107 - July 23, 2012
- #106 - July 16, 2012
- #105 - July 9, 2012
- #104 - July 2, 2012

June 2012:

- #103 - June 25, 2012
- #102 - June 18, 2012
- #101 - June 11, 2012
- #100 - June 4, 2012

May 2012:

- #99 - May 28, 2012
- #98 - May 21, 2012
- #97 - May 14, 2012
- #96 - May 7, 2012

April 2012:

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Newsletter & Archive – http://ml.adlnet.gov

Mobile Learning Handbook

Resources

Planning
Best Practices
Design & Development
Examples
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Learning Content

Some of the methods and strategies you may already know from instructional design and from web or e-learning development may also apply to mobile. However, additional attention should be paid to:

- Create content that is short and to the point
- Create smaller chunks of context-independent content
- Design non-linear content
- Guide the learner to external content where they can catch up or explore further
- Use Post-It notes, index cards or stencils for storyboarding
- Use bullets to make contextual information more concise
- Develop the appropriate learning content or experiences for mobile
- Realize that interactivity may not be nearly as relevant for performance support
- A good checklist could be worth much more than an interactive game
- Develop for users (user experience) instead of for devices

Conten

1 Lear
2 Plann
3 Reco
Other S

Planning

- Confirm
- Underst
- Meet the specific goals and requirements for the project

http://mlhandbook.adlnet.gov

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Resources

- **Mobile Access to Supplementary Learning Objects**

- **Mobile learning publishing platform**

- **3 Components: authoring, storage, mobile players**

- **Mobile learning "app kit"**

- **Open Source**

Resources

- **Academic ADL Co-Lab MASLO official site http://academiccolab.org/maslo**

- **ADL Initiative Mobile Learning Site: http://ml.adlnet.gov/**

Resources

- Mobile Learning Literature Review - TSWG (2012)

- Mobile Learning Vendors - TSWG (2012)

- Mobile Decision Path – TSWG (2013)

  - All available at http://ml.adlnet.gov

Other ADL Resources:

- xAPI Designer WG: xapi-design@adlnet.gov

- ADL Webinars (monthly at adlnet.gov)

The MoTIF Project

mo·tif   [moh-**teef**]

noun

1. a recurring subject, theme, idea, etc.
2. a distinctive and recurring form, shape, figure, etc., in a design
3. a dominant idea or feature

Mobile Training Implementation Framework (MoTIF)

The MoTIF Project

What is the problem (gap)?

Many education and training professionals are creating new mobile content and converting existing eLearning courses without consideration of:

‣ supporting alternative learning methods (e.g. performance support, spaced repetition, contextual learning)

‣ leveraging the capabilities of the mobile platform (e.g. camera, sensors, GPS)

What is ILDF?

- Integrative Learning Design Framework (ILDF)
- Developed by Dr. Brenda Bannan (George Mason University)
- Incorporates process efficiencies from multiple disciplines:
    - instructional design (needs analysis, task analysis, eval.)
    - object oriented software development
    - product development
    - and diffusion of innovations (Rogers)

- Aims to capture the research-based knowledge relating to learning context, culture, and technology within the design process

What is ILDF?

Iterative design research cycles to examine deeper aspects of:
- learning, cognition
- expert and novice perspectives
- stakeholder and organizational policy considerations
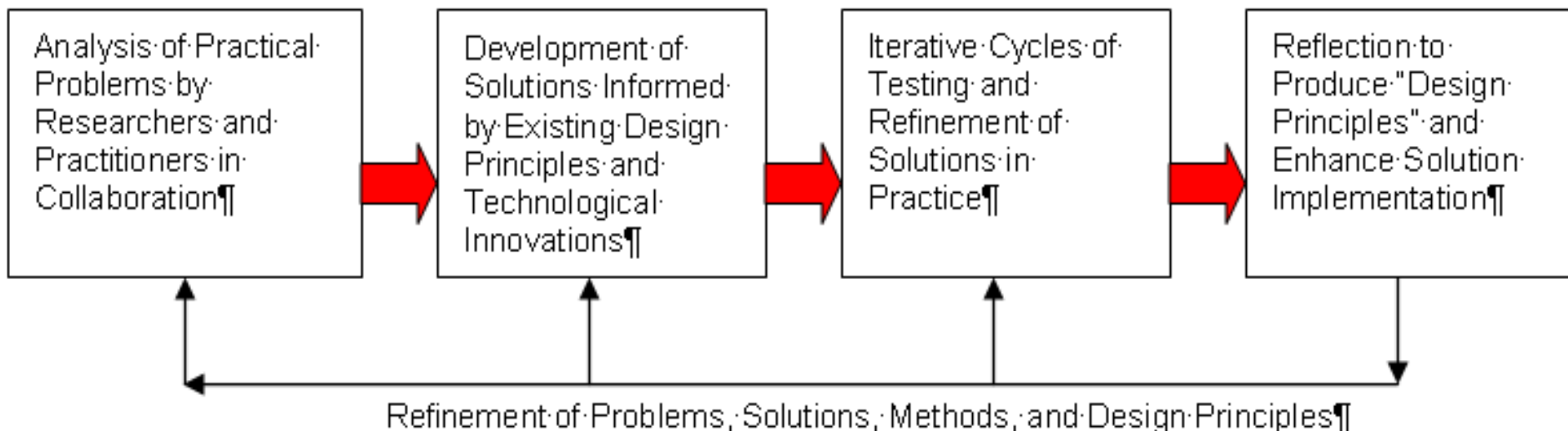
Consists of 4 Phases:
1. Informed Exploration (needs analysis)
2. Enactment (intervention development)
3. Local Evaluation (road test & iterative feedback loops)
4. Broad Evaluation (diffusion of innovation)

DBR

Predictive·Research¶

| Hypotheses·Based·upon·Observations·and/or·Existing·Theories¶ | → | Experiments·Designed·to·Test·Hypotheses¶ | → | Theory·Refinement·Based·on·Test·Results¶ | → | Application·of·Theory·by·Practitioners¶ |

Specification·of·New·Hypotheses¶

Design·Research¶

| Analysis·of·Practical·Problems·by·Researchers·and·Practitioners·in·Collaboration¶ | → | Development·of·Solutions·Informed·by·Existing·Design·Principles·and·Technological·Innovations¶ | → | Iterative·Cycles·of·Testing·and·Refinement·of·Solutions·in·Practice¶ | → | Reflection·to·Produce·"Design·Principles"·and·Enhance·Solution·Implementation¶ |

Refinement·of·Problems,·Solutions,·Methods,·and·Design·Principles¶

What is DBR?

• Design-based research addresses complex problems in educational practice for which no clear guidelines or solutions are available (Plomp, R. and Nieveen, N., 2007).

• The interventions will include such things as strategies, materials, products, and systems – as solutions to the problems

• Outcomes will include:

- • **Domain Theories** - theories about the context and outcomes within the instructional design domain and mobile learning paradigm.

- • **Design Framework** - a workflow process and examples that will serve as a set of design guidelines for determining a mobile learning solution or strategy.

- • **Design Methodologies** - guidelines for how to implement the framework and the expertise that is required.

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The MoTIF Project

Following the ILDF DBR Model

- Phase I: Focus Groups/Interviews (June 2013)
- Needs Analysis Report (July 2013)
- Phase II: Design Framework Interventions (August 2013)
- Phase III: Local Impact (Application & Iterate)
- Phase IV: Broad Evaluation (Diffusion of Innovation)

The MoTIF Project

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The MoTIF Project

What's the approach to the solution?

Lead a collaborative project informed by data collected from the global education and training community to investigate & determine:

1. Is there a need for a design process workflow or framework?

2. Is there a need to better understand how to implement alternative learning approaches as part of a mobile learning strategy?

3. Is there a need to better understand mobile device capabilities used for learning?

Organizations

Organization Type
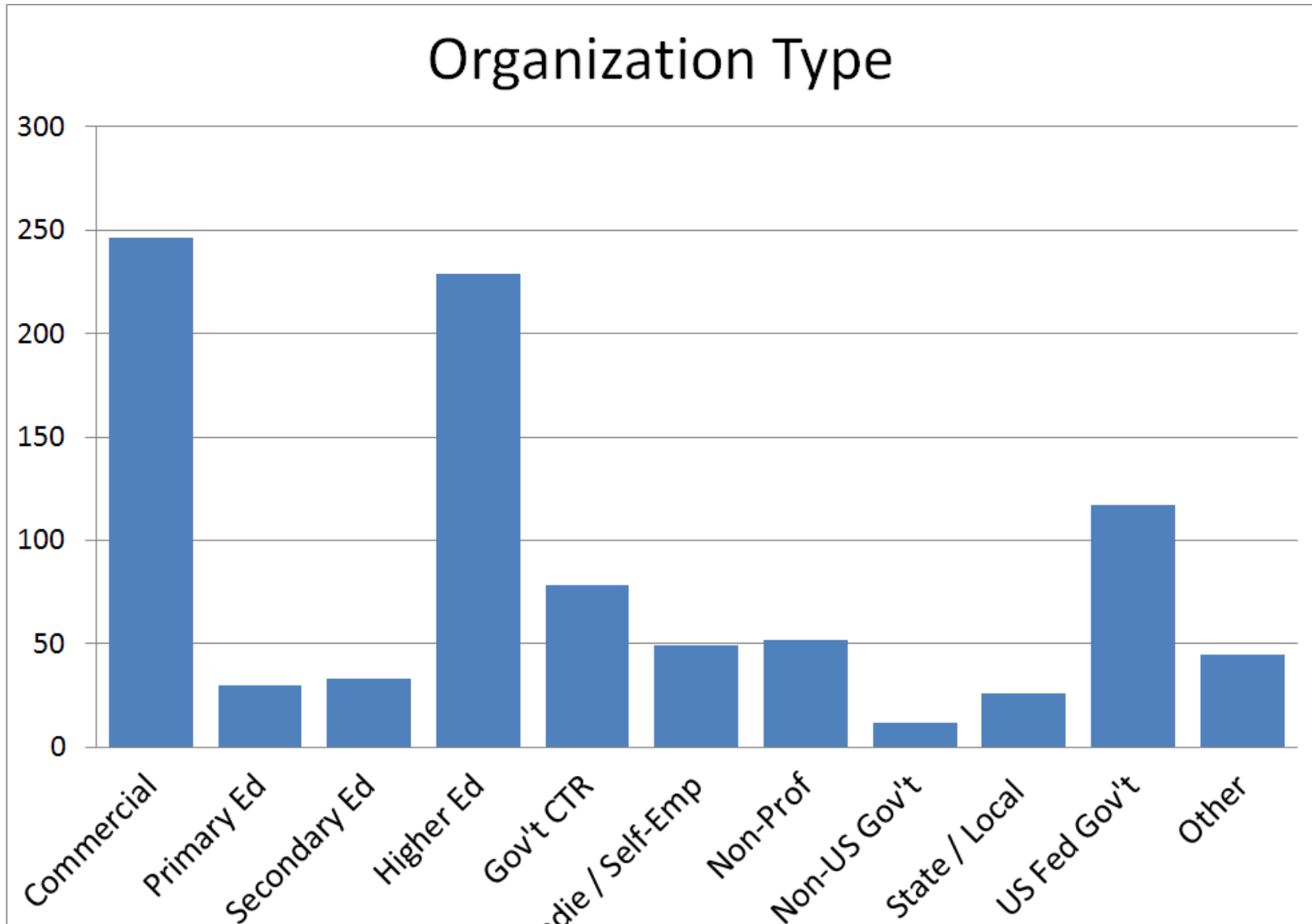
The MoTIF Project

Target Audience

‣**Educator:** a teacher or professor of a specialized subject in an educational setting to include both online environments and physical classrooms.

‣**Instructional Designer:** one who creates planned learning experiences with the goal of the learner acquiring knowledge or skills.

‣**Instructor/Trainer:** one who prepares or guides learners toward specific vocational or training objectives that satisfy job-related tasks or skills.

‣**Learning Content Creator:** anyone responsible for creating media assets to support a learning experience.

‣**Manager:** one who directs, controls, or manages the business operations of a team, program, or organization focused on education or training goals.

‣**Researcher:** one who condudts research into theory and best practices for develoing education, instruction, or training materials

‣**Student: currently participating in a educational or training related program**

Survey Results: Target Audience
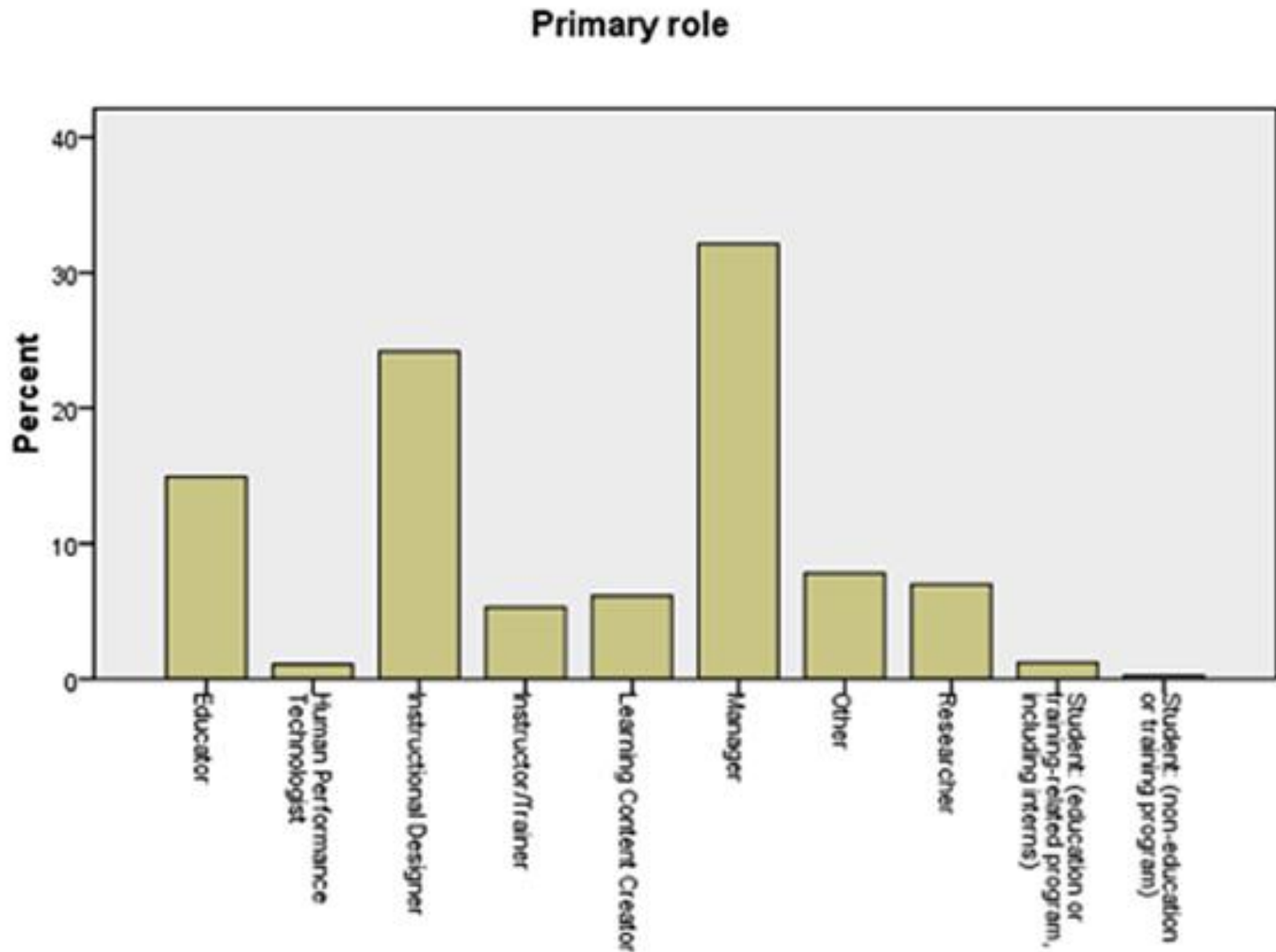
Survey Results: Experience
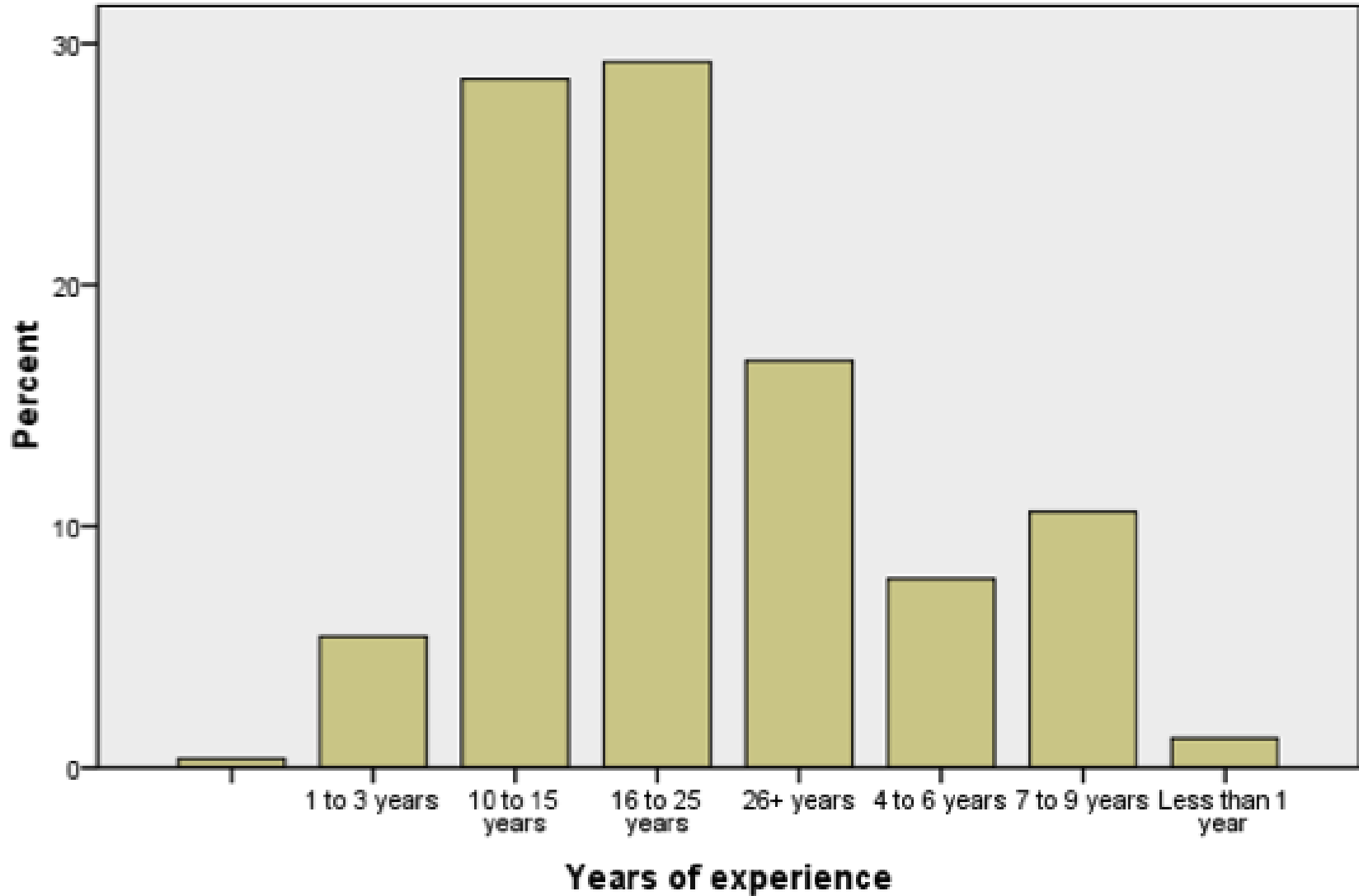
Survey Results: Mobile Experience
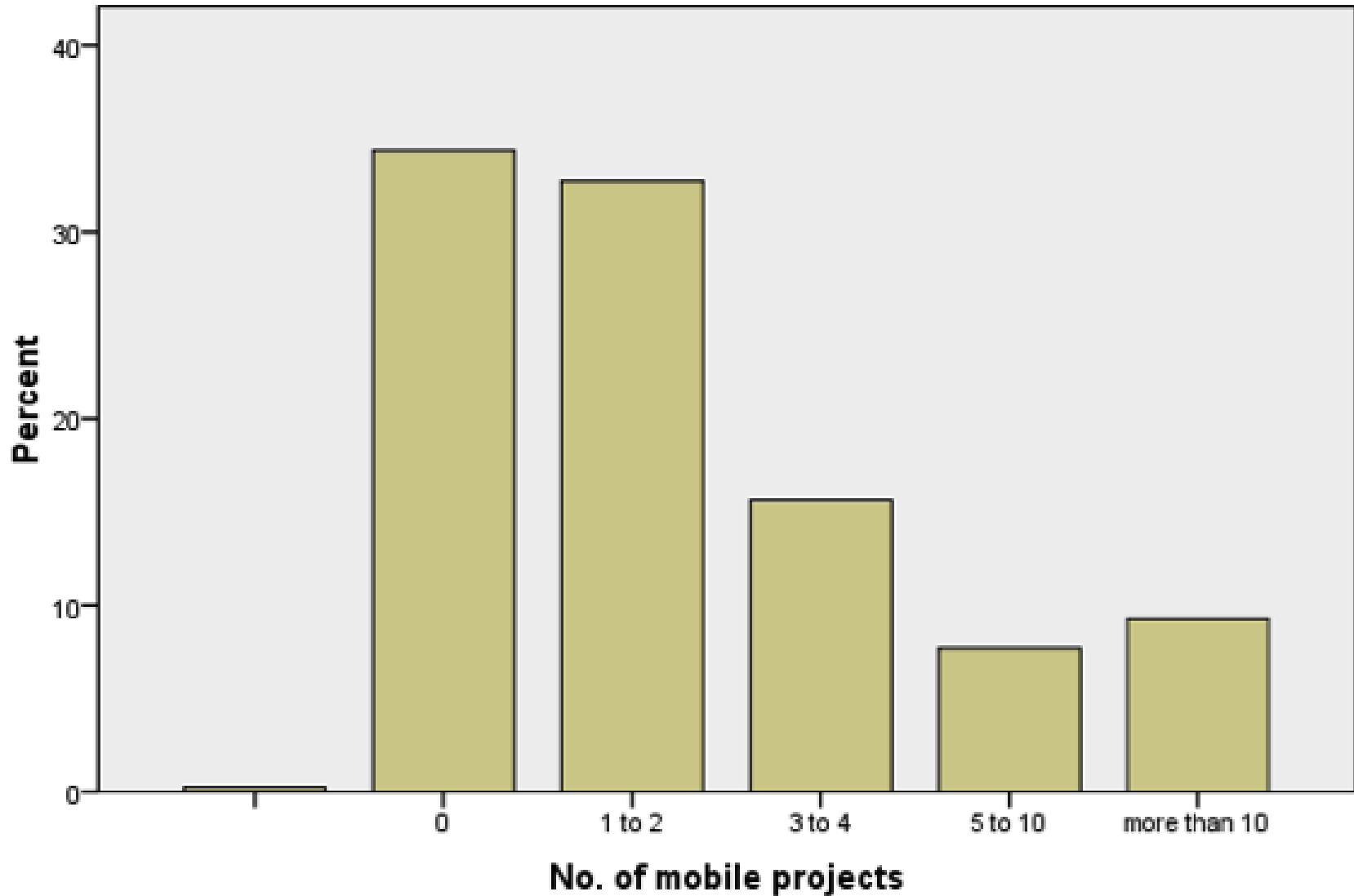
Survey Results: Most Promising

Promising Learning Strategies
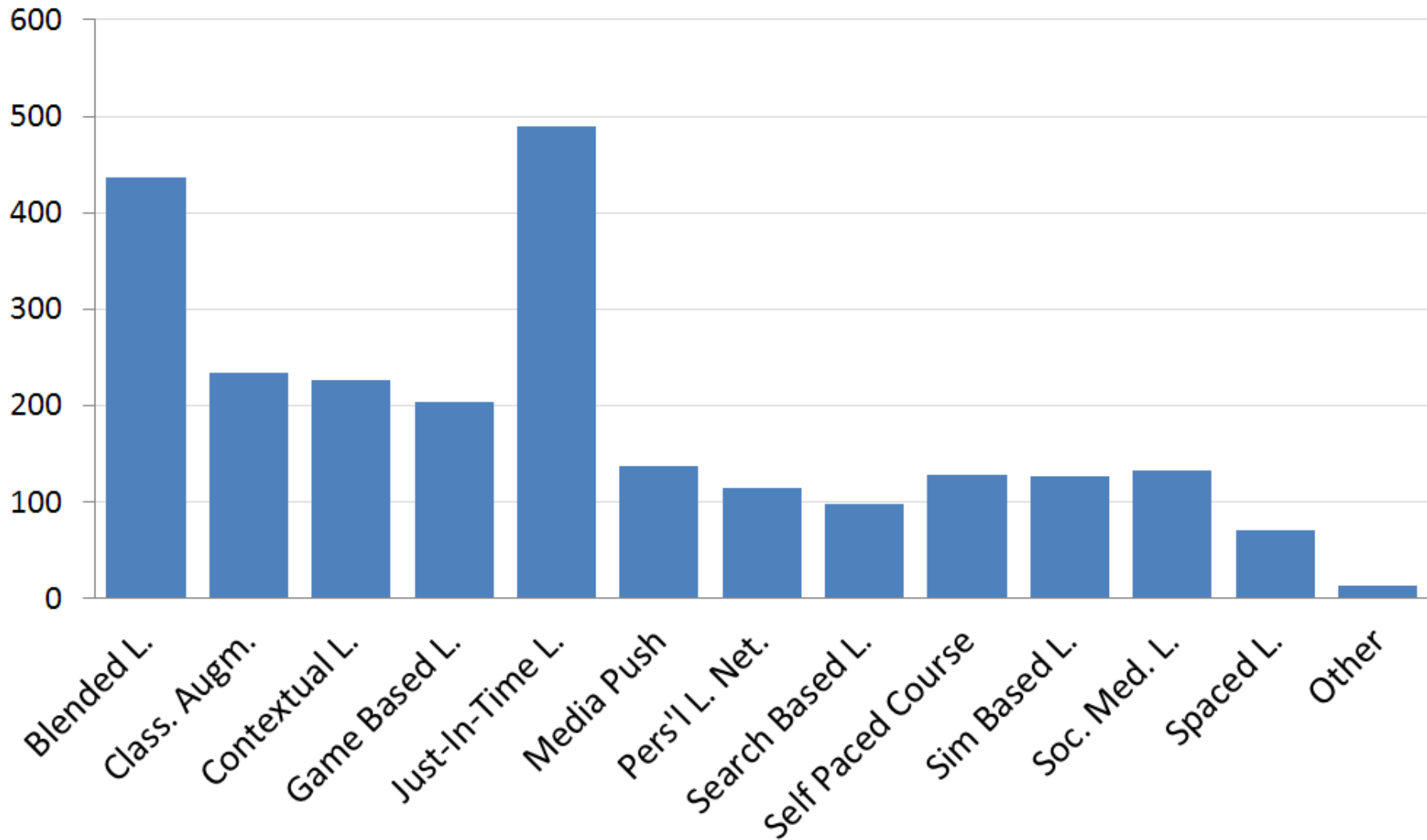
Survey Results: Devices for mLearning
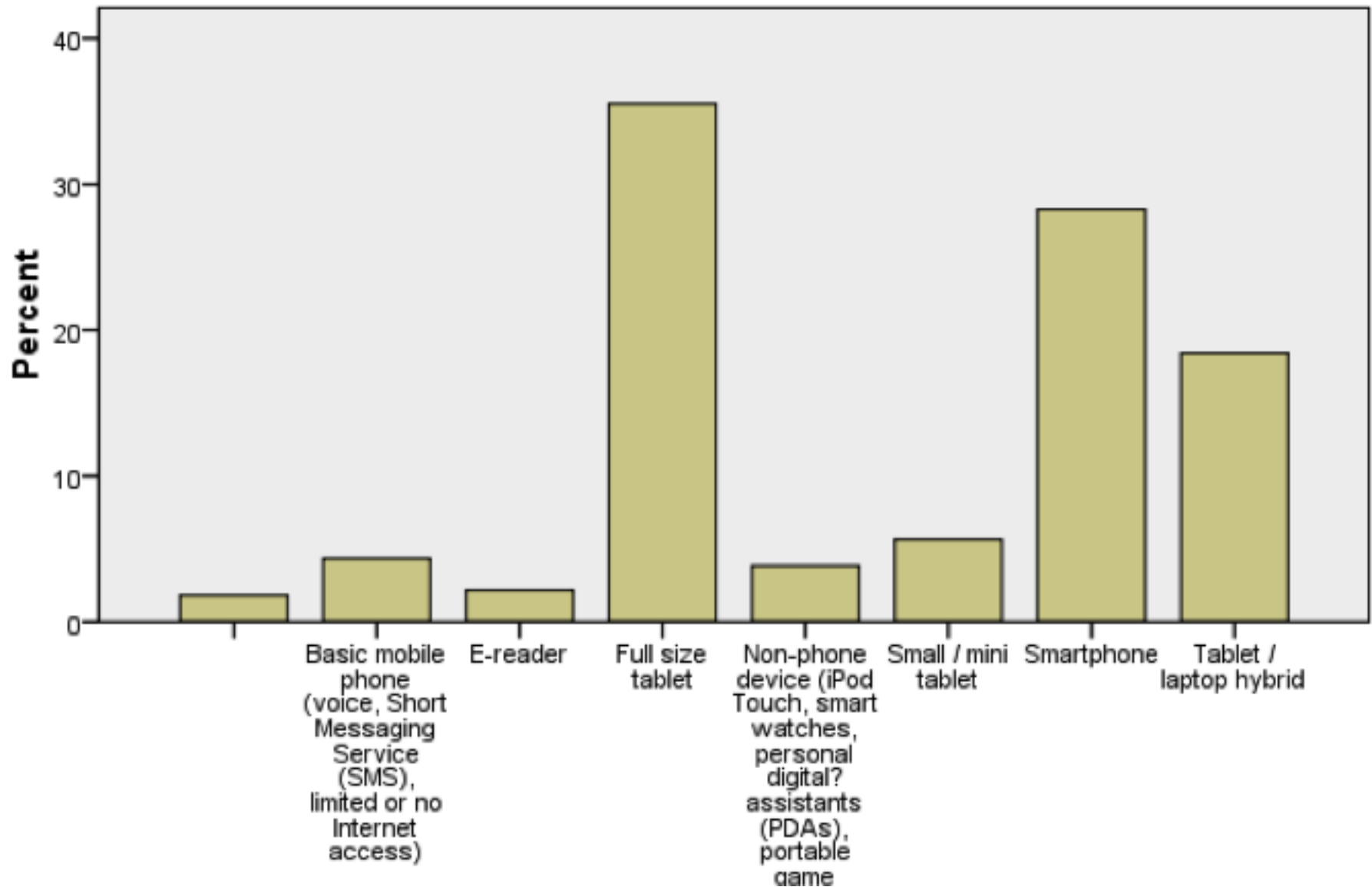
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1. Mobile Workflow Process & Framework?
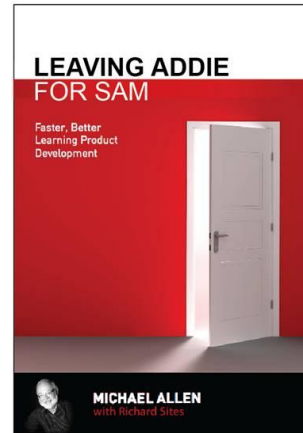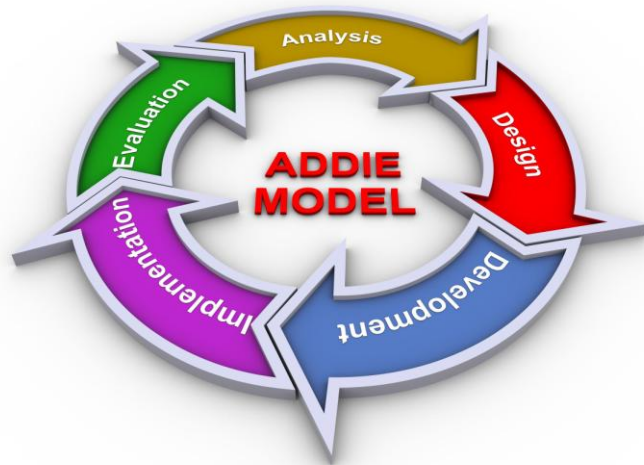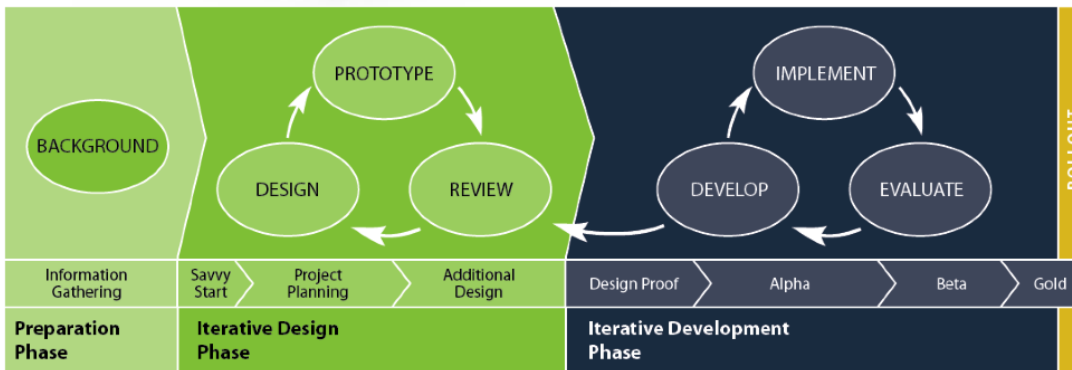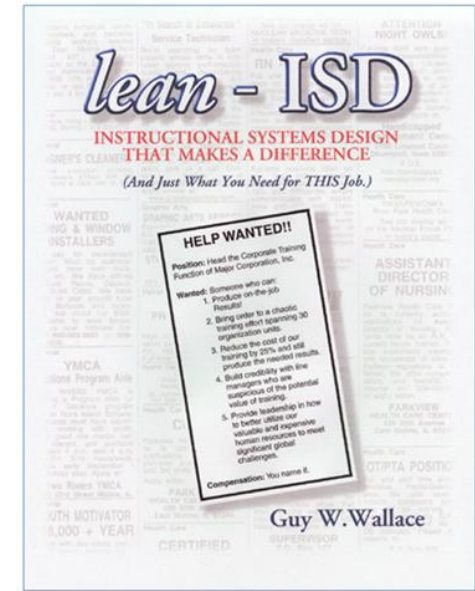
Survey Results: Lickert

The overall **learning strategy** or **instructional design** should be **re-evaluated** when converting elearning courses and other learning materials to a mobile format.
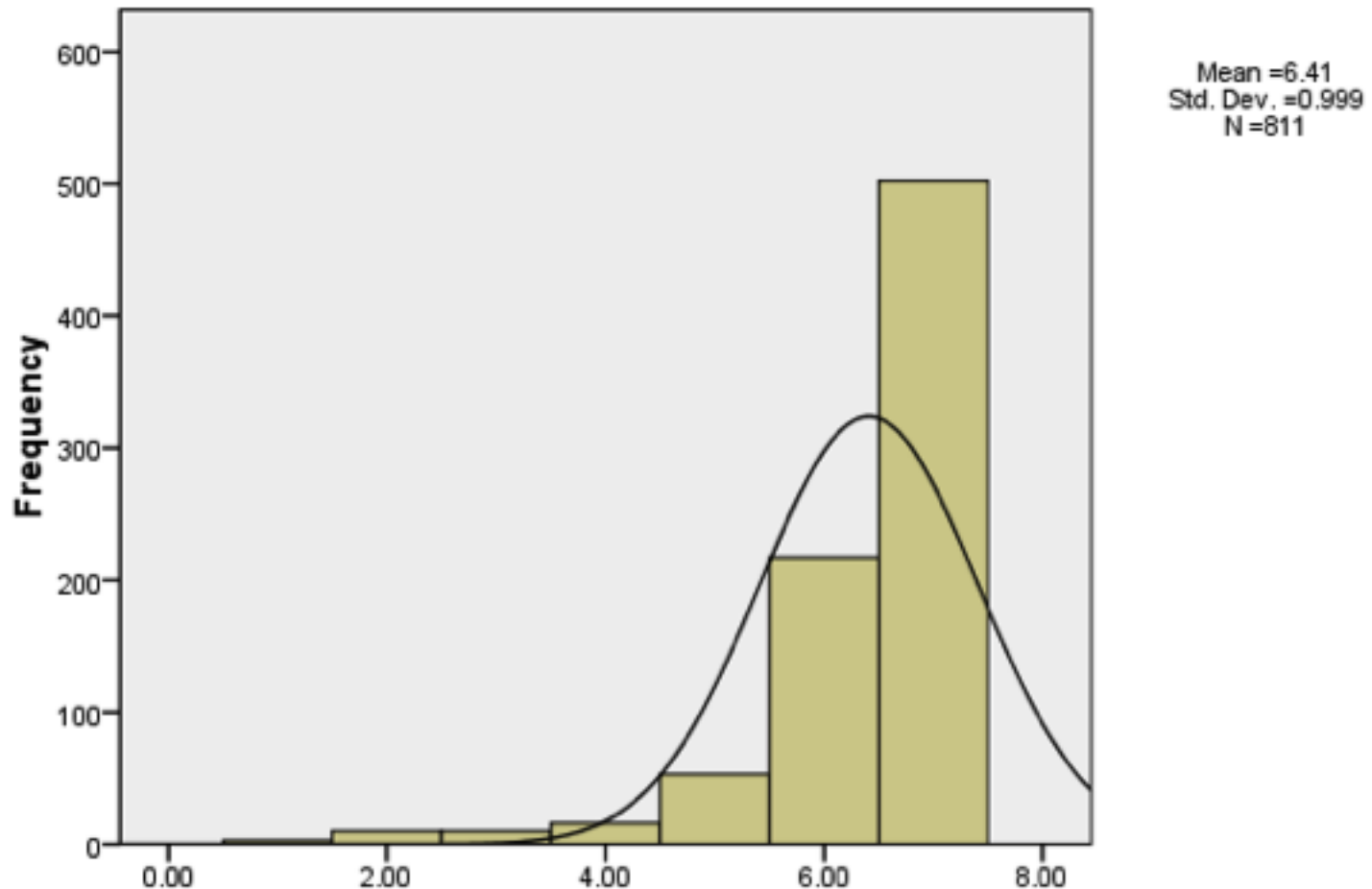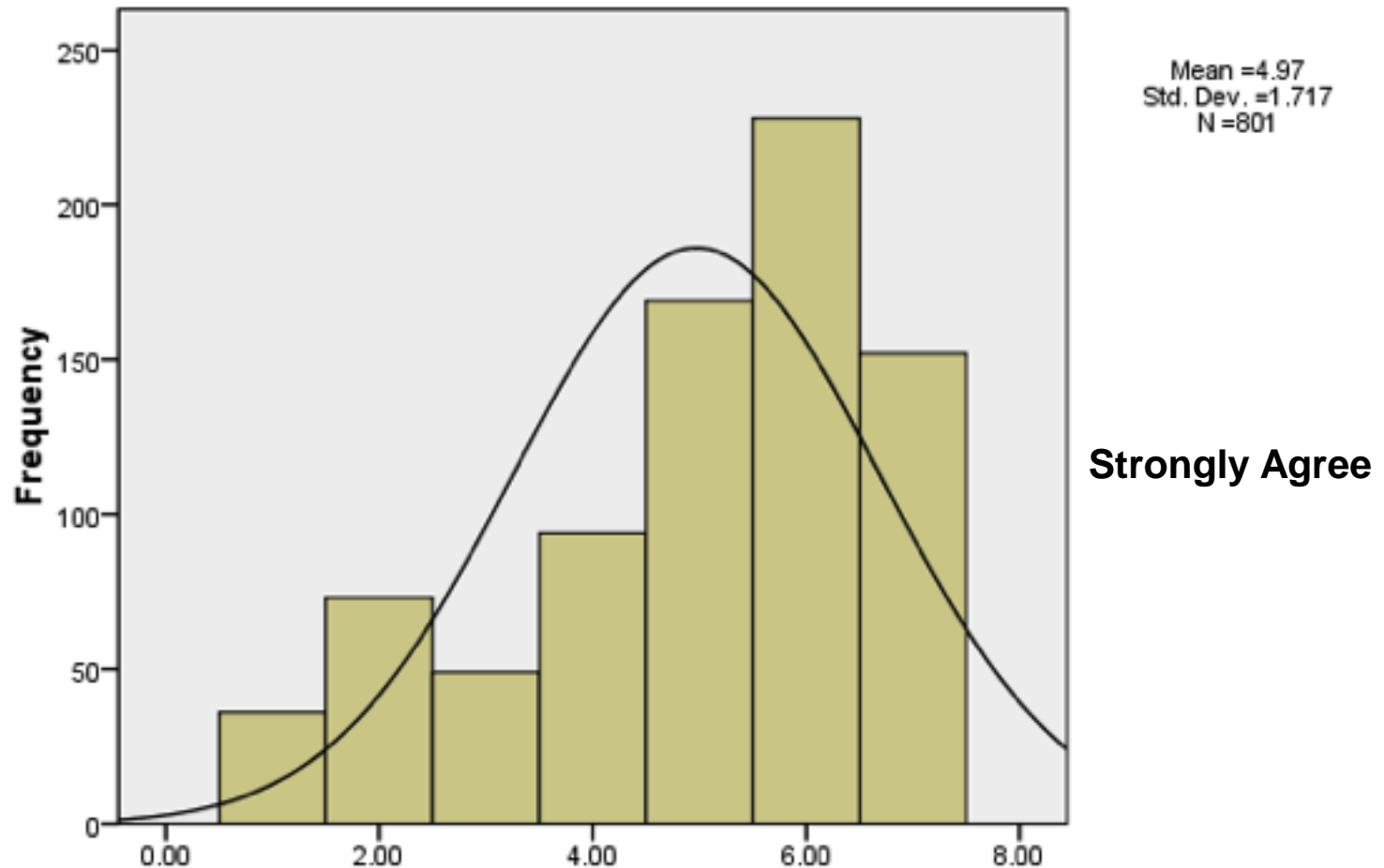
Survey Results: Lickert

A **new** design workflow **process/model optimized for mobile** learning could improve my ability to contribute to education or training projects.

Mean = 5.78
Std. Dev. = 1.292
N = 792
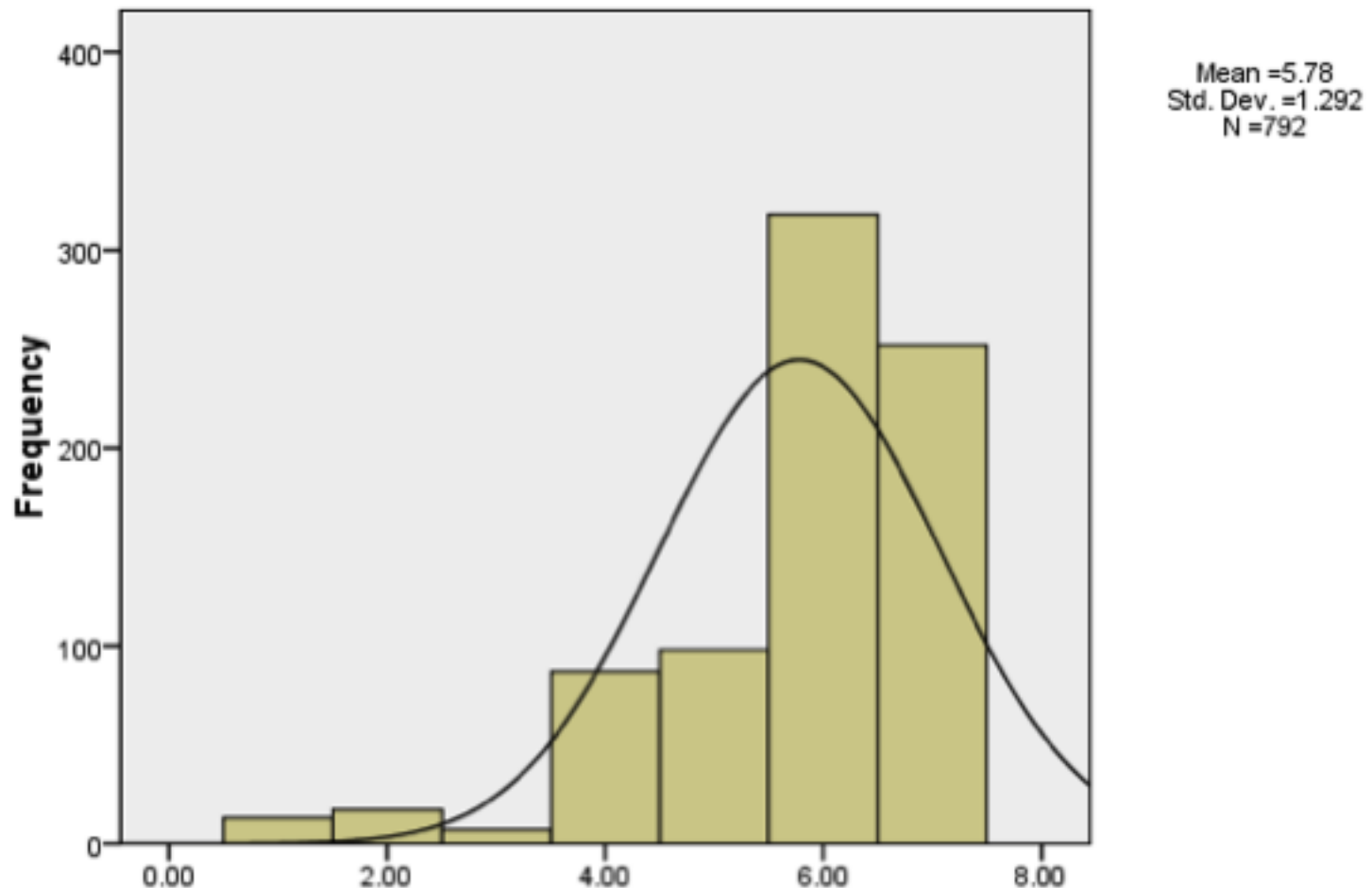
Survey Results: Lickert

The **ID process** for **mobile learning** should be different from the **ID process** for traditional **elearning**.

Mean =4.97
Std. Dev. =1.717
N =801

Strongly Agree

The MoTIF Project

2. Alternative Learning Approaches?

- **Performance Support**
- **Team-based Learning**
- **Spaced Repetition** (spaced learning)
- **Constructivist** (discovery / experiential learning)
- **Connectivist** (social learning / network of connections)
- **Heutagogy** (learning how to learn/self-directed)

Opportunities

"Humans more easily remember or learn items when they are studied a few times over a long period of time (spaced presentation),

rather than studied repeatedly in a short period time (massed presentation)"

Knows everything when cramming the night before test.

Forgets everything a month later

Ebbinghaus Forgetting Curve

% of Data Remembered

1st Repetition
2nd Repetition
3rd Repetition
4th Repetition
5th Repetition
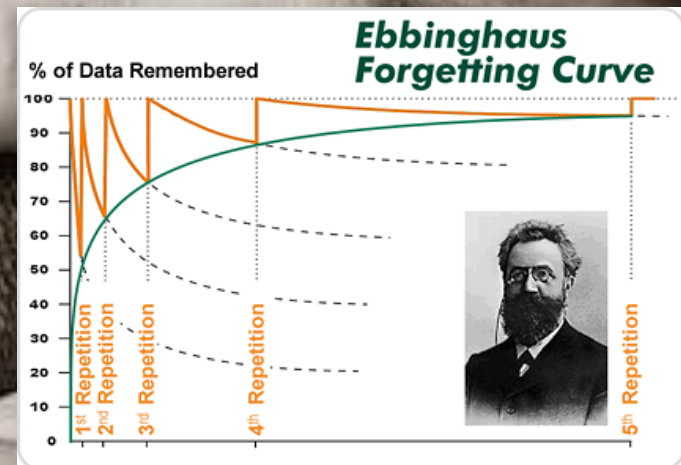
Spaced Repetition - Hermann Ebbinghaus

Two studies evaluated text messaging interventions:

1. Small trial in liver transplant patients found that a text-message medication reminder system involving children and parents reduced rates of biopsy-proven rejection.

2. Large trial found that a simple text-message intervention in which parents received up to five weekly text messages increased influenza vaccination rates in a low-income population.

Consumer Health Information Technology (CHIT)
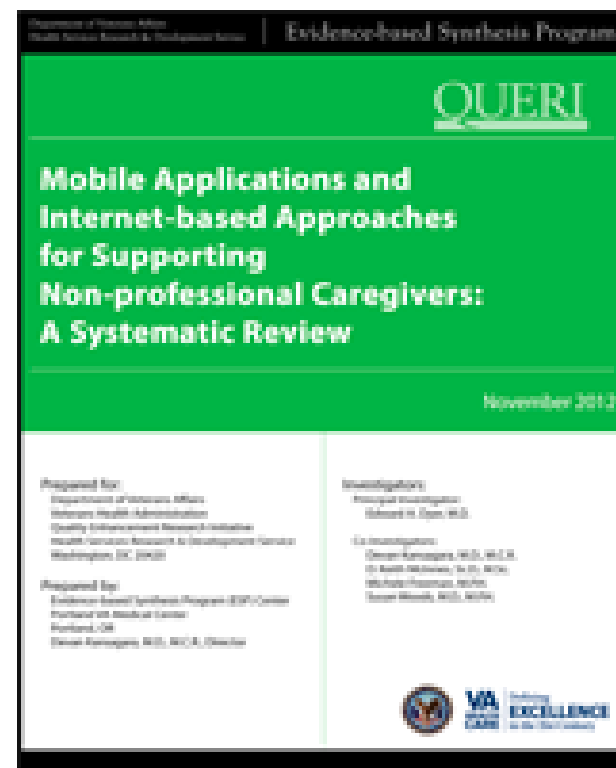
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3. Device Capabilities / Affordances

• **Camera** (capturing video and images, augmented reality, Quick Response (QR) Code reading)
• **Document viewer** (eBooks, PDFs
• **Geolocation** (GPS, geo-fencing, maps)
• **Internal sensors** (accelerometer, barometer, compass, gyroscope, proximity)
• **Media viewer / playback** (images, videos, audios, podcasts)

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3. Device Capabilities / Affordances (Cont'd)

• **Messaging** (Short Message Service (SMS), Multimedia Message Service (MMS)
• **Microphone** (voice recording, podcast)
• **Notification** (alert, sound, vibrate)
• **Search** (discovery, quick-reference, search engine)
• **Short-range communication** (Bluetooth, near field communications (NFC), radio-frequency identification (RFID))

Survey Results: Lickert

There is a general understanding **within the education and training community** about how and when to use the capabilities of mobile devices for learning.

Mean = 3.15
Std. Dev. = 1.638
N = 827
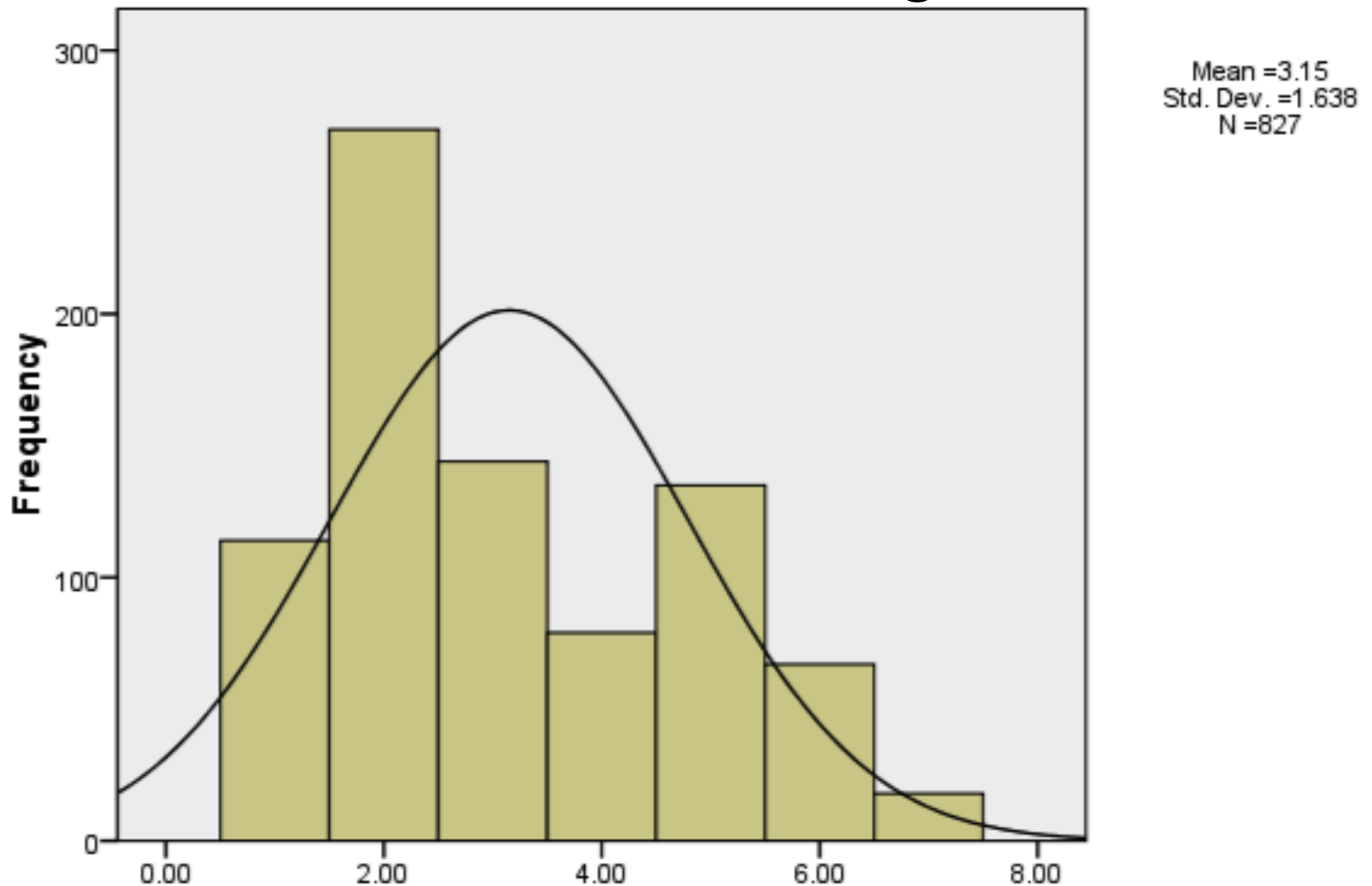
Survey Results: Lickert

There is a general understanding **within my organization** about how and when to use the **capabilities of mobile devices for learning**.
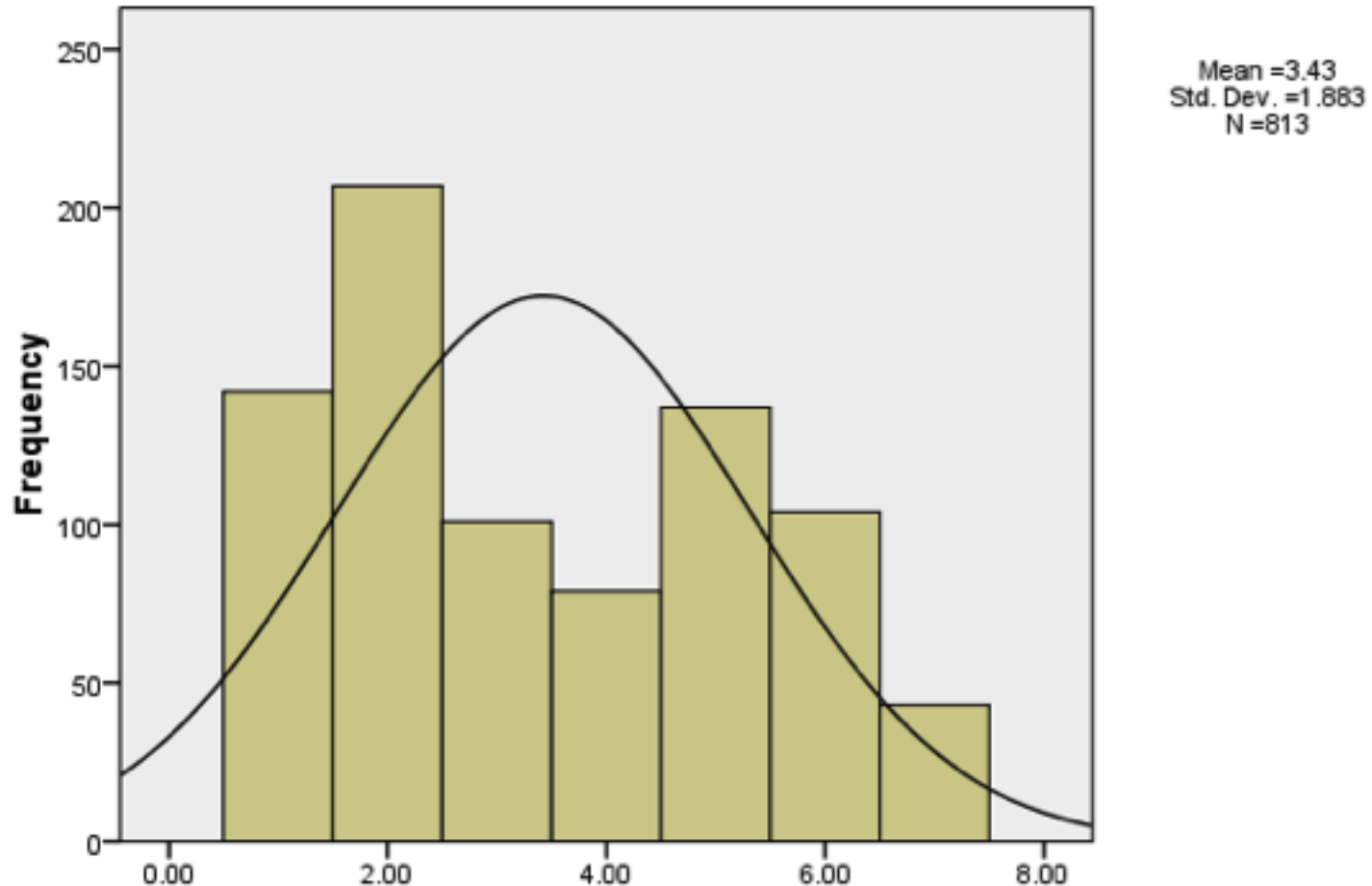
Capabilities/Affordances
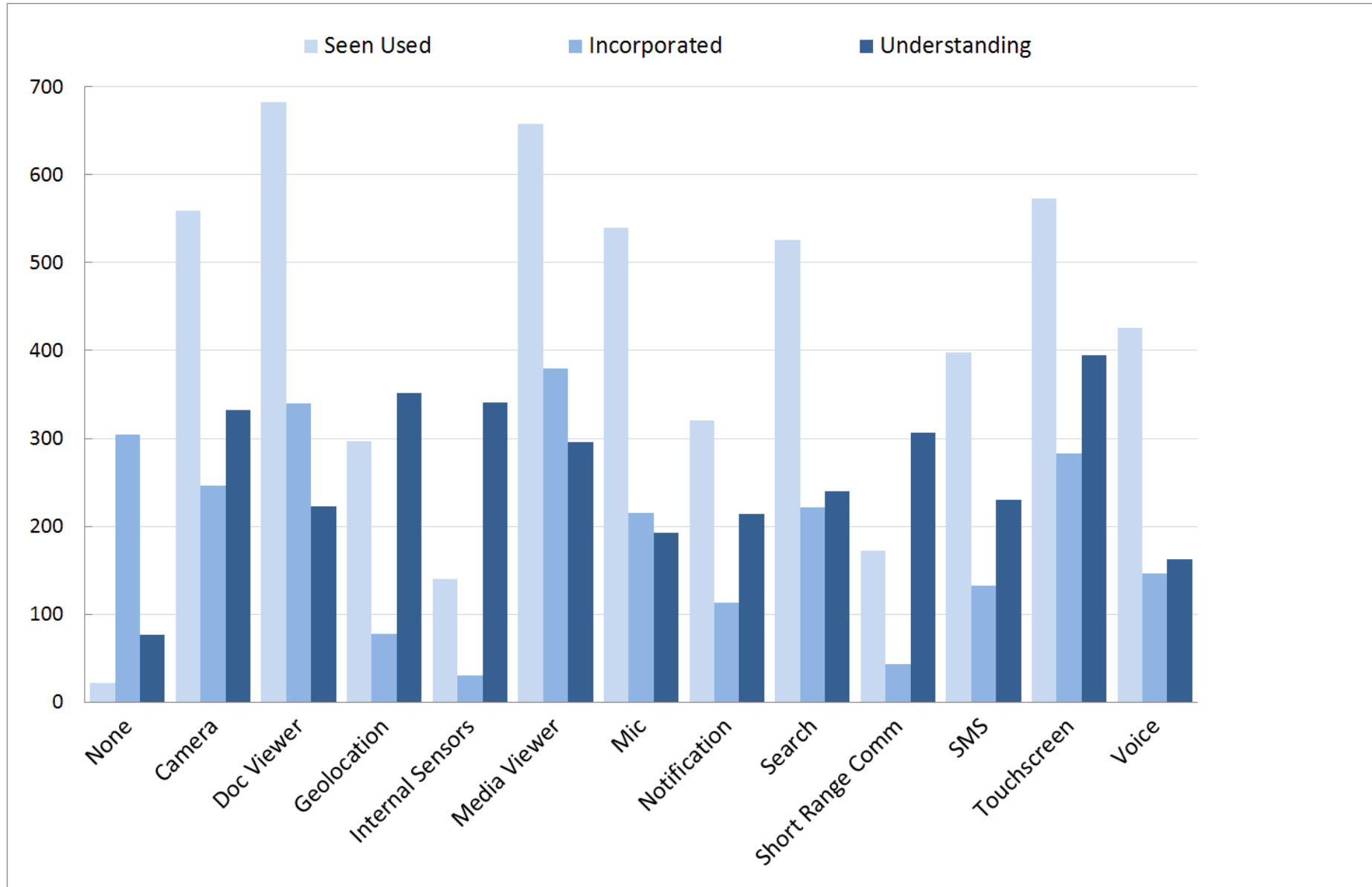
Survey Results: Lickert

Mobile learning **examples** that are **categorized by mobile capabilities** could be helpful to the community in designing mobile learning projects.

Mean =5.96
Std. Dev. =1.142
N =826
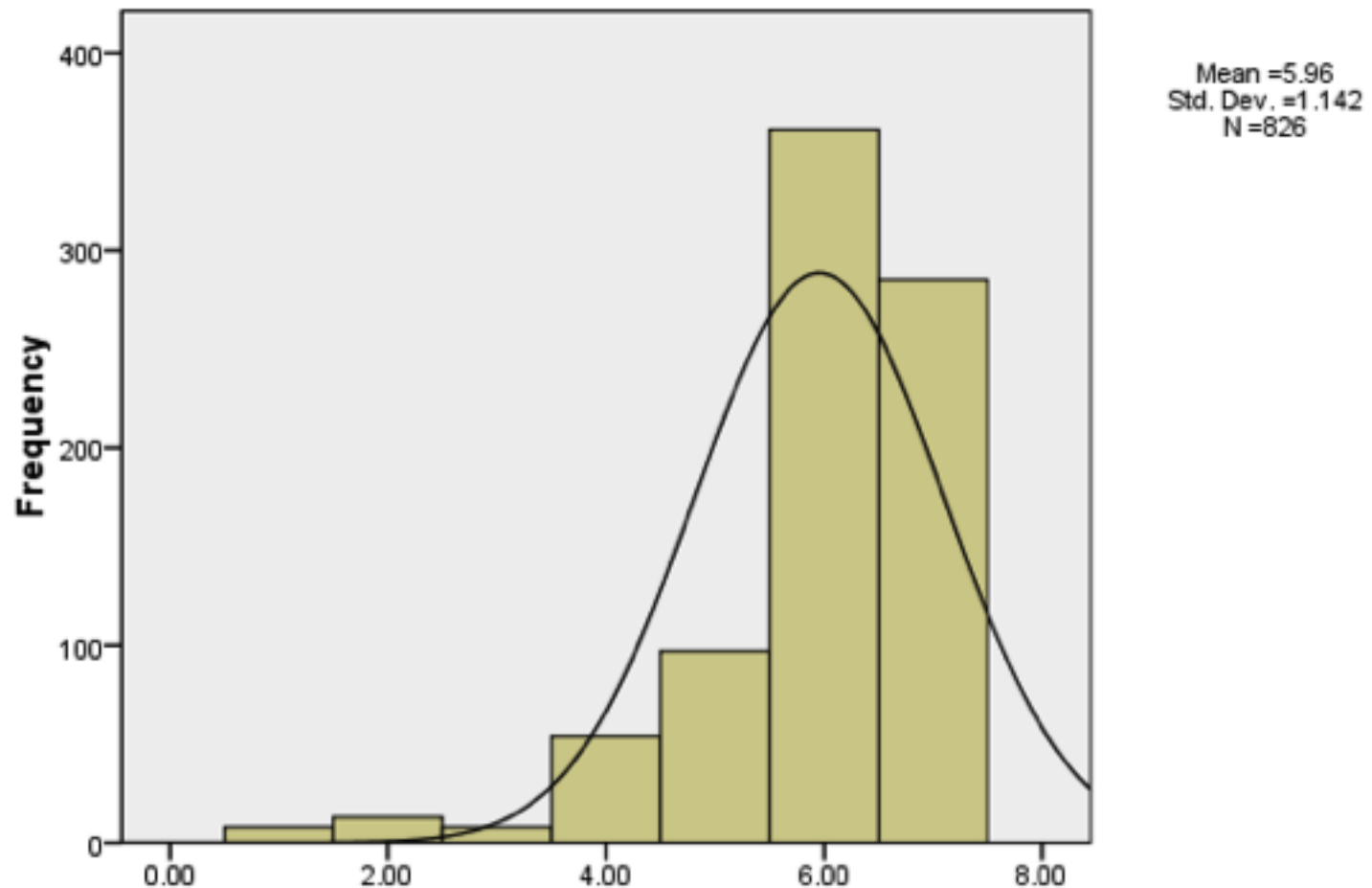
Survey Results: Lickert

There is a general **lack of best practices** or guidelines **for** designing **mobile learning**.

Mean =5.95
Std. Dev. =1.057
N =800
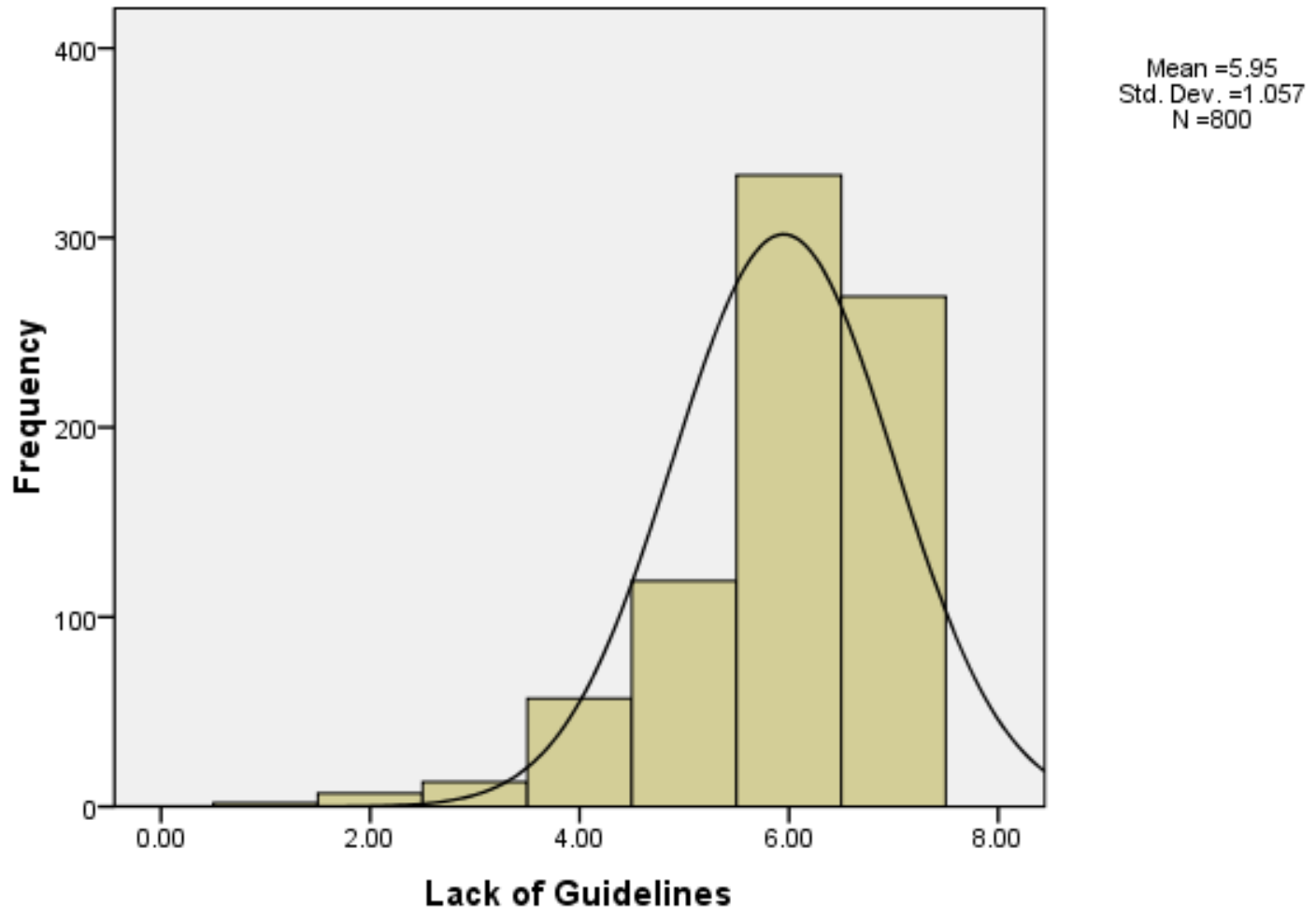
Additional Focus Areas

- **Mobile Learning best practices / guidelines (for learning designers)**

- **Experience API design implications for mobile**

  - Informal learning

  - Spaced learning

  - Leveraging sensors

  - What SCORM functionality is needed?

The MoTIF Project
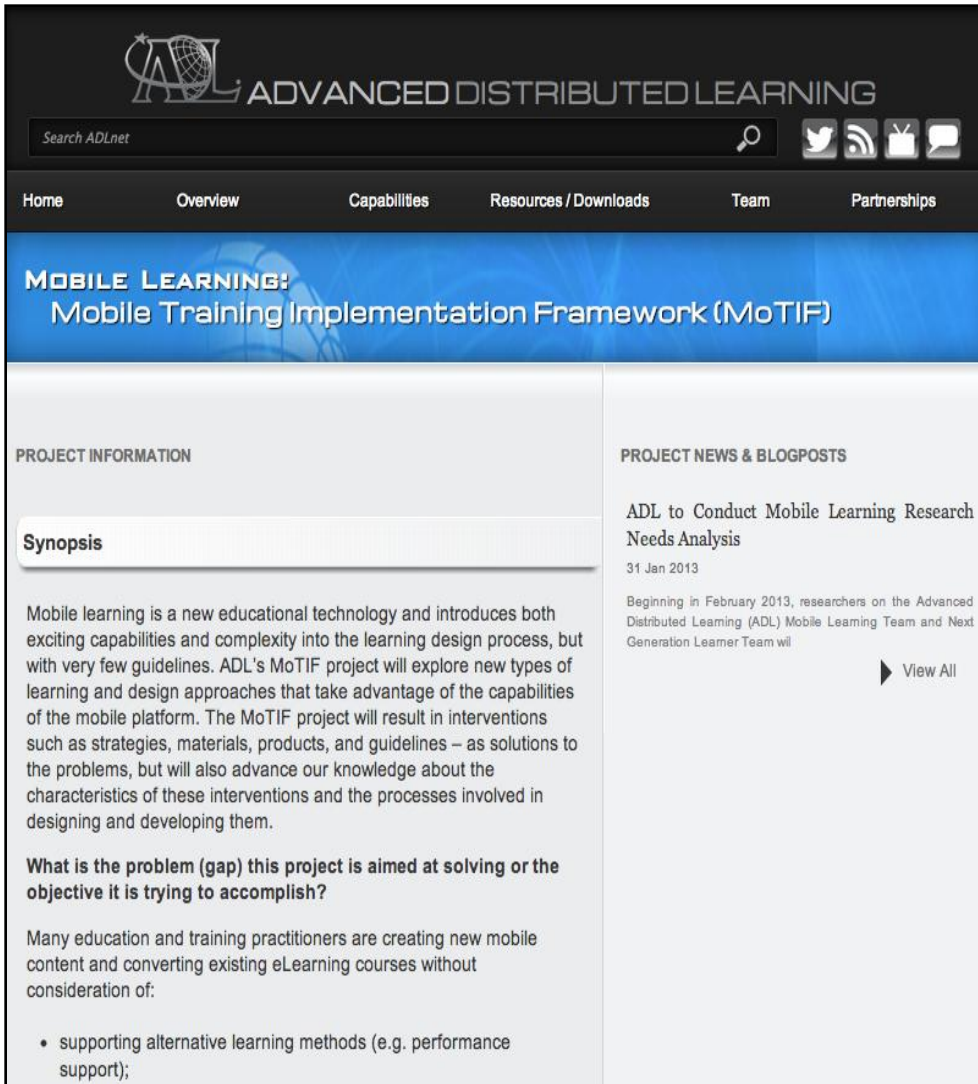
Current Status
• Data Collection:
    • Survey (March 26 – April 26, 2013)
    • Interviews (June 2013)
    • Needs Analysis Report (July 2013)

Next Steps:
    • Build project site for community / stakeholders
    • What are the interventions/solutions (e.g. framework & catalog of mobile learning examples)
    • Would the target audience & stakeholders use them?
    • Refine framework & catalog based on iterative feedback
    • Continue with other phases of **ILDF Research Approach**

The MoTIF Project

ISD & Learning Design for Mobile

- Alternative Approaches

- Device Affordances

- Workflow Process

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Your Design Challenges?

Let's Connect!

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